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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,543	10/01/2003	Purushottam Das Agrawal	PDA-1002	9557

7733 7590 12/09/2004

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EXAMINER	
ZACHARIA, RAMSEY E	

ART UNIT	PAPER NUMBER
1773	

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/677,543	AGRAWAL, PURUSHOTTAM DAS	
	Examiner	Art Unit	
	Ramsey Zacharia	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 9-20* is/are rejected.

7)☒ Claim(s) *7 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *02/04/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 19 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 19 recites that the fluoropolymer is polytetrafluoroethylene. However, claim 19 depends from claim 16 (via claim 18) and claim 16 also requires the fluoropolymer to be polytetrafluoroethylene.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 8, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strassel (U.S. Patent 4,291,099) in view of Zabrocki (U.S. Patent 4,883,837).

Strassel teaches a laminate formed by coextrusion comprising a polyvinylidene fluoride layer and a thermoplastic polyurethane layer (column 1, lines 48-60).

Strassel does not teach that the polyurethane layer further comprises an olefin copolymer, a maleic anhydride-olefin copolymer, and an olefin-vinyl acetate copolymer.

Zabrocki teaches a composition comprising a blend of a polyolefin, a thermoplastic polyurethane, and a compatibilizing modified polyolefin (column 1, lines 6-10). The composition may be used as a more economically attractive replacement for thermoplastic polyurethanes (column 9, lines 17-20). The blend comprises about 15-70 wt% polyolefin, about 20-80 wt% thermoplastic polyurethane, and about 5-50 wt% of modified polyolefin (column 3, lines 40-49). The most preferred material for the polyolefin component is linear low density polyethylene, i.e. a copolymer of ethylene and an α-olefin (column 4, lines 8-11). The polyurethane is preferably prepared from an organic diisocyanate, a polymeric diol, and a chain extender (column 4,lines 39-45). The polymeric diol is preferably a polyether diol or a polyester diol (column 6, lines 26-27), with a caprolactone based diol cited as an illustrative polyester diol (column 5, lines 61-68). The modified polyolefin is preferably a modified polyethylene such as ethylene/vinyl acetate copolymer, ethylene/maleic anhydride copolymer and mixtures thereof in any proportion (column 8, lines 61-68). In the embodiment of Example 1, a material comprising 20 wt% of ethylene/maleic anhydride copolymer and 40 wt% of ethylene/vinyl acetate copolymer was used as the modified polyolefin (see Table I).

One skilled in the art would be motivated to use the composition of Zabrocki in place of the thermoplastic polyurethane taught by Strassel to low the cost of the resulting laminate, particularly since Strassel teach that the polyurethane layer may contain other polymer components (column 3, lines 30-36).

Regarding the relative concentrations of the polyolefin, polyurethane, and modified polyolefin components, the ranges taught by Zabrocki overlap those recited in the instant claims.

Therefore, it would be obvious to one skilled in the art to select any value from among the disclosed ranges.

	Claimed	Taught
polyurethane	10-60	20-80
polyolefin	15-60	15-70
ethylene/maleic anhydride	1-15	1-10*
ethylene/vinyl acetate	15-35	2-20*

* amounts of ethylene/maleic anhydride copolymer and ethylene/vinyl acetate copolymer based on disclosed range of 5-50 wt% and disclosed composition comprising 20 wt% of ethylene/maleic anhydride copolymer and 40 wt% of ethylene/vinyl acetate copolymer

4. Claims 5, 6, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strassel (U.S. Patent 4,291,099) in view of Zabrocki (U.S. Patent 4,883,837) as applied to claims 1 and 15 above, and further in view of Van Lang et al. (U.S. Patent 4,423,192).

Strassel taken in view of Zabrocki teach all the limitations of claims 5, 6, and 16-20, as outlined above, except for the presence of polytetrafluoroethylene in the polyvinylidene fluoride layer. However, Strassel does teach that other polymers may be added to the polyvinylidene fluoride layer provided that the layer contains at least 70 wt% of polyvinylidene fluoride (column 2, lines 3-8).

Van Lang et al. teach the addition of 0.1-10 wt% of polytetrafluoroethylene to polyvinylidene fluoride to improve flow properties and processing by conventional processes such as extrusion (column 2, lines 13-25).

One skilled in the art would be motivated to add 0.1-10 wt% of polytetrafluoroethylene to the polyvinylidene fluoride of Strassel to improve its flow properties and make the extrusion of the final product easier.

5. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strassel (U.S. Patent 4,291,099) in view of Zabrocki (U.S. Patent 4,883,837) as applied to claim 1 above, and further in view of Huarng (U.S. Patent 5,846,474).

Strassel taken in view of Zabrocki teach all the limitations of claims 9-11, as outlined above, except for the addition of 0.5-1.5 parts by weight of a phenolic resin.

Huarng teach that the addition of a poly(hydroxyl group) containing resin to a thermoplastic polyurethane decreases the cycle time without significantly affecting physical properties (column 2, lines 2-9). A decreased cycle time improves molding productivity (column 1, lines 18-32). Resins based on the reaction of terpenes and phenols, i.e. phenolic resins, are the preferred poly(hydroxyl group) containing resin (column 3, lines 23-47). The poly(hydroxyl group) containing resin is added in an amount of about 0.5-3 wt% (column 4, lines 28-43).

One skilled in the art would be motivated to add 0.5-3 wt% of a phenolic resin to the thermoplastic polyurethane composition to improve productivity by decreases the molding cycle time without significantly affecting physical properties.

6. Claims 12-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Strassel (U.S. Patent 4,291,099) in view of Zabrocki (U.S. Patent 4,883,837) and Huarng (U.S. Patent

5,846,474) as applied to claim 9 above, and further in view of Van Lang et al. (U.S. Patent 4,423,192).

Strassel taken in view of Zabrocki and Huarng teach all the limitations of claims 12-14, as outlined above, except for the presence of polytetrafluoroethylene in the polyvinylidene fluoride layer. However, Strassel does teach that other polymers may be added to the polyvinylidene fluoride layer provided that the layer contains at least 70 wt% of polyvinylidene fluoride (column 2, lines 3-8).

Van Lang et al. teach the addition of 0.1-10 wt% of polytetrafluoroethylene to polyvinylidene fluoride to improve flow properties and processing by conventional processes such as extrusion (column 2, lines 13-25).

One skilled in the art would be motivated to add 0.1-10 wt% of polytetrafluoroethylene to the polyvinylidene fluoride of Strassel to improve its flow properties and make the extrusion of the final product easier.

Allowable Subject Matter

7. Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter.

The invention of claim 7 (and claim 8 since claim 8 depends from claim 7) is directed to a flexible material substantially resistant to microorganisms comprising a polytetrafluoroethylene

layer laminated to a substrate. The substrate comprises the polymeric blend recited in claim 1. Furthermore, a two-sided adhesive tape is adhered to the polymeric substrate.

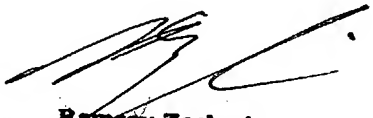
Strassel represents the closest prior art. However, Strassel does not teach or fairly suggest adhering a two-sided adhesive tape to the disclosed polyurethane layer.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones, can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ramsey Zacharia
Primary Examiner
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